

VA Formulary Choices for Pharmacotherapy of Smoking Cessation

	Nicotine Transdermal Patch	Nicotine polacrilex gum	Nicotine polacrilex lozenge	Bupropion
Trade Name and Dose availability	Nicoderm/Habitrol 21mg/14mg/7mg Nicotrol* 15mg/10mg/5mg	Nicorette Gum 2mg, 4mg	Commit Lozenge 2mg, 4mg	Bupropion SR (Zyban) 150mg, 300mg tab Bupropion IR 100mg tab
Recommended Regimen	High Dependence† 21mg x 4-6wks, then 14mg x 2wks, then 7mg x 2wks Low Dependence 14mg x 6-8wks, then 7mg x 2wks	High Dependence† 4mg q1-2hrs x6wks, then q2-4hrs x4wks, then q4-6hrs x2wks Low Dependence 2mg q1-2hrs x6wks then q2-4hrs x3wks then q4-6hrs x3wks -No more than 24 pieces/24hrs	High Dependence† 4mg Low Dependence 2mg -Suck 1 lozenge q1-2hrs x6wks, then 1 q2-4hrs x3wks, then 1 q4-8hrs x3wks -No more than 20 lozenges/24hrs or 5 lozenges/6hrs	<i>Bupropion SR (Zyban)</i> 150mg qd x 3d then 150mg bid (8 hrs apart) patients with cirrhosis need adjusted dose: 150mg qod <i>Bupropion IR</i> 100mg qd x3d, then 100mg tid patients with cirrhosis need adjusted dose: 75mg qd
Administration comments	-Usually worn for 24hrs (Nicotrol, 16hrs) -Apply from neck to waist -Rotate sites -Takes 2-3d for effect after application of first patch	-Chew slowly (about 10 chews) until peppery taste then "park" between teeth and gums till taste dissipates. Repeat process on and off for 30mins/piece -Has been studied in combination with patch	-Allow lozenge to dissolve slowly over 20-30 minutes shifting in mouth occasionally. -Do not chew or swallow (increased risk of GI side effects)	-start 1-2 wks prior to quitting smoking (to achieve steady-state levels) -continue treatment for 7-12 wks (if no progress is made by week 7, consider discontinuing therapy) -if insomnia, take PM dose in afternoon
1-year Abstinence rates‡	16-30% (dose dependent); high dose patch: 30%	20-30%	15-20%	10-30% (up to 35% when combined with patch)
Time to Peak blood concentrations	4-10hrs	15-30 mins	No data on <i>time</i> to peak concentration	3 hours (half-life = 21 hrs)
Absorption	75-90%	30%	30%	20%
Advantages (+) and Disadvantages (-)	(+)best adherence; easy to use; consistent rate of exposure; unobtrusive (-)less effective for cravings; difficult to control titration; absorption increased at elevated temperatures	(+) helps prevent sudden urges; can titrate to adjust for cravings; oral substitute for cigarettes (-)difficult for those with poor dentition or dentures; must learn proper chewing technique; must abstain from drinking/eating during gum use	(+)easy to use; discreet; higher immediate levels; can titrate to adjust for cravings; reduces self-reported withdrawal symptoms (-)must abstain from drinking/eating during lozenge use	(+) better compliance; ease of use; can be combined with patch; consistent rate of exposure; helps with withdrawal symptoms (-) many drug interactions due to metabolism by CYP2B6; CNS side effects; must be adjusted for hepatic insufficiency; increased risk of seizures
Adverse Effects	-sleep disturbances -local skin irritation -bone pain -headache -nausea	-local mouth irritation -jaw pain -hiccups -dyspepsia -rhinitis -nausea	-local mouth irritation/tingling -heartburn, indigestion, nausea (if chewed) -headache -nausea, diarrhea -flatulence	-anxiety -disturbed concentration -dizziness -insomnia -constipation -dry mouth -nausea -seizures (risk 1:1000)
VA National Formulary Restrictions	None	None	Yes - restricted to patients who cannot tolerate gum (i.e. dentures, missing teeth, TMJ, s/p head and neck surgery)	None
VA Cost and Average cost per day based on above regimens (avg)	All strengths: \$35.07 / 14patches \$2.50/patch avg \$2.50/day	2mg gum: \$12.62/50 pieces \$20.12/110 pieces \$0.18-\$0.25/ piece avg \$2.20-\$6/day 4mg gum \$13.70/50 pieces	2mg or 4mg lozenge: \$29.45/72 lozenges \$0.41/lozenge avg \$5-\$8/day	SR: \$0.48/tab \$0.96/day IR: \$0.28/tab \$0.84/day

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		\$25.69/110 pieces \$0.23-\$0.27/piece avg \$2-\$6.50/day		
Contraindications/ Relative Contraindications	Relative Contraindications: -Hypersensitivity -Pregnancy: Category D -Use within 14 days post MI, or serious or worsening angina -Patients should be advised not to smoke while on nicotine replacement therapy			Contraindications: -history of seizures -predisposition to seizures (i.e. severe head trauma, CNS tumor, hepatic cirrhosis) -abrupt withdrawal from heavy, daily alcohol or other sedative -MAO inhibitor within 14 days -bulimia, anorexia nervosa Relative Contraindications: -hypersensitivity -pregnancy: category B

*remove Nicotrol patch at bedtime

+In general, greater than 20 cigarettes per day or use of first cigarette within 30 minutes of awakening is considered high dependence

‡all NRTs have been shown to double 6-12month abstinence rates compared to placebo

|| cost based on FSS or BIG4 pricing as listed on PBM website (<http://www.pbm.va.gov/PBM/prices.htm>) Accessed: Jan 2006

Note: Two additional prescription products, a nicotine inhaler and nicotine nasal spray, are also FDA approved for nicotine replacement therapy however these products are not available on the VA National Formulary. For more information on these products, visit the American Lung Association Smoking Cessation Support website at:

<http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=33566>